In re Patent Application of:
FOLIO
Serial No. **09/884,897**
Filing Date: **06/19/01**
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In the Claims:

1.   (CURRENTLY AMENDED)   A system for encoding information into a video data stream of a video signal comprising:

a modulation and video synchronization circuit for converting content data into at least one modulated frame of data having video synchronization information; and

an interleaver operatively connected to said modulation and video sychronization circuit for interleaving the modulated frame of data into selected lines of the video data stream by substituting the modulated frame of data into single top and bottom video lines containing luminance information.

2.   (ORIGINAL)   A system according to Claim 1, and further comprising a decode circuit for receiving the video data stream that has been encoded with the content data and extracting the content data therefrom.

3.   (ORIGINAL)   A system according to Claim 2, wherein said decode circuit further comprises a line deinterleaver for separating video lines having the encoded content data from the video data stream into a modulated frame of content data.

4.   (ORIGINAL)   A system according to Claim 3, wherein said decode circuit further comprises a DC restoration circuit that restores a DC bias level for any content data in the modulated frame of data.

5.   (ORIGINAL) A system according to Claim 3, wherein said decode circuit further comprises a bit and frame synchronizer circuit for synchronizing the modulated frame of content data.

6.   (ORIGINAL) A system according to Claim 3, wherein said decode circuit further comprises demodulator/decode circuit for demodulating and decoding the modulated frame of content data into the content data.

7.   (ORIGINAL) A system according to Claim 1, and further comprising a video signal decoder circuit for receiving a video signal that is compliant with a broadcasting format and converting the video signal into the video data stream to be encoded with content data.

8.   (ORIGINAL) A system according to Claim 7, wherein the video signal that is compliant with a broadcasting format comprises one of a National Television System Committee (NTSC), Digital Advanced Television Systems Committee (ATSC), Sequentiel Couleur a Memoire (SECAM), or Phase Alternation Line (PAL) compliant broadcasting format.

9.   (ORIGINAL) A system according to Claim 1, and further comprising a video signal formatting circuit operatively connected to said interleaver for receiving the video data stream after interleaving with the modulated frame of content data and formatting the video data steam into a video signal that is compliant with a broadcasting format.

10.   (ORIGINAL)   A system according to Claim 9, and further comprising a decode circuit for receiving the video signal that has been encoded with the content data and extracting the content data.

11.   (ORIGINAL)   A system according to Claim 10, wherein said decode circuit comprises:

a video signal decoder for converting the video signal into a video data steam; and

a line separation and restoration circuit that extracts the content data from the video data stream.

12.   (CURRENTLY AMENDED)   An encoder for encoding information into a video data stream comprising:

a modulation and video synchronization circuit for converting content data into at least one modulated frame of data having video synchronization information and error coding information;

an interleaver for receiving a video data stream and a modulated frame of content data having video synchronization information and interleaving the modulated frame of data within at least one selected video line of the video data stream that is substantially shadowed from viewing on a video display by substituting the modulated frame of data into single top and bottom video lines containing luminance information; and

an interleave processing and control circuit operative with the modulation and video synchronization circuit and interleaver for timing and proper interleaving of modulated frames of content data with the video data stream.

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13.   (CANCELLED)

14.   (ORIGINAL) An encoder according to Claim 12, and
further comprising a video signal decoder circuit for
receiving a video signal that is compliant with a broadcasting
format and converting the video signal into the video data
stream to be encoded with content data.

15.   (CURRENTLY AMENDED) A decoder for decoding a video
signal where luminance information has been substituted with a
modulated frame of content data on <u>single</u> top and bottom video
lines of an active portion of the video signal to provide an
additional information channel on the video signal,
comprising:
    a video signal decoder for converting the video signal
into a video data stream; and
    a line separation and restoration circuit that extracts
the content data from the <u>single</u> top and bottom lines of the
active portion of the video signal.

16.   (ORIGINAL) A decoder according to Claim 15, wherein
said line separation and restoration circuit further comprises
a line deinterleaver for separating video lines having the
encoded content data from the video data stream into a
modulated frame of content data.

17.   (ORIGINAL) A decoder according to Claim 16, wherein
said line separation and restoration circuit further comprises
a DC restoration circuit operatively connected to said line

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deinterleaver and operative on said video data stream for restoring a DC bias level to content data encoded within the modulated frame of data.

18.   (ORIGINAL) A decoder according to Claim 16, and further comprising a bit and frame synchronizer circuit for synchronizing the modulated frame of content data.

19.   (ORIGINAL) A decoder according to Claim 16, and further comprising a demodulator/decode circuit for demodulating and decoding the modulated frame of content data into the content data.

20.   (CURRENTLY AMENDED) A method for encoding information into a video signal comprising the step of:
    substituting luminance information within the video signal with a modulated frame of content data by substituting the modulated frame of content data into single top and bottom video lines containing luminance information to provide an additional information channel on the video signal.

21.   (ORIGINAL) A method according to Claim 20, and further comprising the step of forming the modulated frame of data by encapsulating a frame of content data with video synchronization information.

22.   (ORIGINAL) A method according to Claim 21, and further comprising the step of embedding a frame sequence and frame marker for synchronization.

23. (ORIGINAL) A method according to Claim 20, and further comprising the step of forming the modulated frame of content data by coding a stream of content data with error correction and modulation information.

24. (CANCELLED)

25. (ORIGINAL) A method according to Claim 24, and further comprising the step of formatting the video signal for transmission as one of a National Television System Committee (NTSC), Digital Advanced Television Systems Committee (ATSC), Sequentiel Couleur a Memoire (SECAM), or Phase Alternation Line (PAL) compliant broadcasting format video signal.

26. (ORIGINAL) A method according to Claim 25, and further comprising the step of receiving the video signal after broadcast in a broadcasting format and extracting the content data that had been substituted into the video signal as the additional information channel.

27. (CURRENTLY AMENDED) A method for encoding information into a video signal of a television signal comprising the step of substituting with a modulated frame of content data the <u>single</u> top and bottom video lines in a video signal corresponding to the top and bottom of a video display that are substantially shadowed from viewing on a television.

28. (ORIGINAL) A method according to Claim 27, wherein the content data comprises digital content data that has been

coded with error correction and modulation information for a
video signal broadcasting format.

29.   (ORIGINAL)   A method according to Claim 28, wherein
the video signal comprises one of a National Television System
Committee (NTSC), Digital Advanced Television Systems
Committee (ATSC), Sequentiel Couleur a Memoire (SECAM), or
Phase Alternation Line (PAL) compliant broadcasting format.

30.   (ORIGINAL)   A method according to Claim 28, and
further comprising the step of receiving the video signal
after broadcast and extracting content data that had been
substituted into the video signal as an additional information
channel.

31.   (CURRENTLY AMENDED)   A method for encoding
information into a video signal comprising the steps of:
    receiving a video signal as a video data stream to be
enhanced with content data;
    converting content data into at least one frame of
content data;
    adding video synchronization information and modulation
data into the at least one frame of content data to form a
modulated frame of content data; and
    interleaving the modulated frame of content data within
at least one selected video line of the video signal
by substituting the modulated frame of data into single top
and bottom video lines containing luminance information.

32. (ORIGINAL) A method according to Claim 31, and further comprising the step of converting the video data stream that has been interleaved with the modulated frame of content data into a video signal that is compliant with a broadcasting format.

33. (ORIGINAL) A method according to Claim 32, wherein the broadcasting format for the video signal comprises one of a National Television System Committee (NTSC), Digital Advanced Television Systems Committee (ATSC), Sequentiel Couleur a Memoire (SECAM), or Phase Alternation Line (PAL) compliant broadcasting format.

34. (ORIGINAL) A method according to Claim 31, and further comprising the steps of:
broadcasting the video signal;
receiving the broadcasted video signal within a decoder and converting the received video signal into a video data steam; and
extracting the content data from the video data stream.

35. (CURRENTLY AMENDED) A method of processing a video signal comprising the steps of:
receiving a video signal as a video data stream to be enhanced with content data;
converting content data into frames of content data;
adding video synchronization information and modulation data into the frame of content data to form a modulated frame of content data;

interleaving the modulated frame of content data within
at least one selected video line of the video data stream
by substituting the modulated frame of data into <u>single</u> top
and bottom video lines containing luminance information;

converting the video data stream into a video signal for
broadcast;

receiving the video signal within a decoder and decoding
the video signal into a video data stream; and

extracting the content data from the video data stream.

36.   (ORIGINAL)   A method according to Claim 35, wherein
the step of extracting comprises the step of restoring a DC
bias level for any content data.

37.   (ORIGINAL)   A method according to Claim 35, and
further comprising the step of removing system noise and
transmission artifacts within a bit and frame synchronizer
circuit.

38.   (CURRENTLY AMENDED)   A method of decoding a video
signal where luminance information has been substituted with a
modulated frame of content data on <u>single</u> top and bottom video
lines of the active portion of the video signal to provide an
additional information channel on the video signal, comprising
the steps of:

receiving the video signal within a decoder and decoding
the video signal into a video data stream; and

extracting the content data from the <u>single</u> top and
bottom lines of the active portion of the video signal in the
video data stream.

39. (ORIGINAL) A method according to Claim 38, wherein the step of extracting the content data from the video data stream comprises the step of restoring a DC bias level for any content data.

40. (ORIGINAL) A method according to Claim 38, and further comprising the step of removing system noise and transmission artifacts within a bit and frame synchronizer circuit.